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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,964	07/28/2003	Todd M. Shail	11-934	2266

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EXAMINER
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YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/627,964

Applicant(s)

SHAIL ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reith (US 4,844,765) in view of (Werenicz et al (US 5,827,252) or Janssen (US 6,843,874)), Brumbelow et al (US 2002/0134486 A1), and optionally further in view of Crandall et al (US 5,1316,838) for reasons of record set forth in a prior office action dated 04-01-05, numbered paragraph 2.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reith (US 4,844,765) in view of (Werenicz et al (US 5,827,252) or Janssen (US 6,843,874)), (Goss (US 5,004,638) or Thornton et al (US 5,589,027)), Brumbelow et al (US 2002/0134486 A1), and optionally further in view of Crandall et al (US 5,1316,838).

With respect to claims 1-2, Reith discloses a process of making a carpet, the process comprises forming a tufted primary backing; providing a secondary backing; applying 1<sup>st</sup> and 2<sup>nd</sup> hot-melt adhesive layers between the primary backing and the secondary backing; heat-pressing the layers together to soften the hot-melt adhesive layers without damaging the backing layers (col. 1 lines 19-36; col. 2 lines 3-31; col. 4 line 59 to col. 5 line 39; col. 6 lines 10-35; col. 9 line 41 to col. 11 line 18). Moreover, Reith teach applying two separate adhesive

sheets or applying a composite sheet comprising a 1<sup>st</sup> and 2<sup>nd</sup> adhesive layers (col. 5 lines 15-23). While Reith teaches forming a hot-melt adhesive sheet using a die gap coater (col. 12 lines 19-31), Reith does not teach slot-coating a hot-melt adhesive an underside surface of a primary backing. However, it would have been obvious in the art to slot-coat a hot-melt adhesive to an underside surface of a primary backing in a process taught by Reith, because: a) it is a notoriously common practice in the art to slot coat a hot-melt adhesive to a 1<sup>st</sup> substrate in-situ and then to adhesively bond a 2<sup>nd</sup> substrate to an adhesive coated 1<sup>st</sup> substrate as exemplified in the teachings of either (Werenicz et al (col. 9 lines 25-46; figure 1) or Janssen (col. 4 lines 34-47; col. 5 lines 1-60; figures 1A-3); b) it is also well known in the art to coat continuously a hot-melt adhesive onto a backing of a carpet using a slot die (taken to be a slot coater) as exemplified in the teachings of either Goss (col. 3 line 53 to col. 4 line 28; figure 1) or Thornton et al (col. 5 lines 45-60); c) it is also well known in the art to coat continuously a hot-melt adhesive onto an underside surface of a primary backing using a die-slot extrusion coater and then to adhesively bond a secondary backing to the adhesive coated underside surface of a primary backing as exemplified in the teachings of Brumbelow et al (numbered paragraph 107; figures 2 and 6-7); and optionally, it is a common practice in the hot-melt adhesive coating art to interchangeably use “*slot orifice coaters*” and “*extrusion coaters*” for applying a hot-melt adhesive coating onto a substrate as exemplified in the teachings of Crandall et al (col. 10 lines 15-38). An incentive for one in the art to apply a hot-

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melt adhesive using a slot-coater in-situ to an underside surface of a primary backing would have simply been to obtain a self-evident advantage of obviating the need to form adhesive sheets in a different production line, thereby enhancing a production efficiency and reducing production cost. It directly follows that, since it also old in the art to apply a series of thermoplastic layers using a series of die-coaters to a primary backing before a secondary backing is applied as exemplified in the teachings of Brumbelow et al (numbered paragraph 172-178; figure 7), it would have been obvious in the art to provide a series of slot coaters to apply in-situ 1<sup>st</sup> and 2<sup>nd</sup> hot melt adhesive layers onto an underside surface of a primary backing in order to form a carpet continuously of Reith. As for an added limitation of adding a tackifying agent to each of the melted coating compositions, such would have been obvious in the art, because it is a common practice in the art to incorporate a tackifier to a polyolefin type hot-melting adhesive to overcome the viscosity and re-crystallization deficiencies of the adhesive (numbered paragraph 16). Also see column 6 lines 43-55 and column 8 lines 37-62 of the Reith patent.

With respect to claims 3 and 5-6, the recited amounts of hot melt adhesive in these claims are taken to be conventional in the art. Moreover, one in the art would have determined, by routine experimentation, a suitable amount hot-melt adhesive in forming a carpet of Reith. For these reasons, these claims would have been obvious in the art.

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With respect to claim 4, since Reith also teaches incorporating various additives in addition to a tackifier, and since one in the art would have determined a workable amount of additives in formulating a hot-melting composition in a process of Reith, this claim would have been obvious in the art. Note: the recited amount of tackifier and hot-melting adhesive is taken to be old in the art.

With respect to claims 7-8, see column 7 line 60 to column 8 line 5 of the Reith patent.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 3 above as applied to claim 1 above, and further in view of Fink (US 5,728,444).

Since it is well known in the art to form a carpet which is made from a fully recyclable thermoplastic material as exemplified in the teachings of Fink (abstract; col. 4 lines 16-65; col. 7 line 65 to col. 8 line 67; figures 5-6), this claim would have been obvious in the art.

#### ***Response to Arguments***

5. Applicant's arguments filed on 08-24-05 have been fully considered but they are not persuasive.

On page 4, Counsel argues that, *"[w]hile it is agreed that slot coating is a well known procedure for hot coat melting in general none of these cited references relates the use of slot coating in making a carpet backing."* Examiner strongly disagrees. See for instance the teachings of either Thornton et al. (col. 5 lines 44-60) or Goss (col. 3 line 53 to col. 4 line 28; figure 1).

Counsel argues on page 5 that, an extrusion die coating is used for a high viscosity hot-melting adhesive (50k-300k cps), while a slot coater is used for a low viscosity hot melting adhesive (15-20k). Examiner agrees. That's precisely the reason why one in the art interchangeably uses one of these two well known coating techniques. Depending on a desired viscosity of a hot-melting adhesive, one in the art would have applied a suitable coating technique such as a slot coater. It should be re-emphasized that, Reith teaches using a die coater in forming a hot-melting adhesive sheet. Thus, it strongly suggests that the viscosity of the hot-melting adhesive is relatively low. In fact, one of the components of a hot-melting adhesive of Reith only has a kinematic viscosity of 500-5000 centistokes at 210 °F. Equally importantly, it is old in the art to use a slot die coater for applying hot-melting adhesive onto a carpet backing as exemplified in the teachings of Goss (col. 3 line 53 to col. 4 line 28; figure 1) or Thornton et al (col. 5 lines 45-60). Therefore, absent any showing of unexpected benefit, it is taken to be well within the purview of choice in the art to choose from a slot-die coater and an extrusion die coater for applying a hot-melting adhesive onto a carpet backing in a process of Reith.

As for Counsel's argument regarding the use of a tackifying agent, as noted above, Reith also teaches using a tackifying agent in order to impart wetting to a backing of a carpet (col. 6 lines 43-56). Note that, Reith also envisions using plasticizers to reduce viscosity and enhance flexibility and waxes to reduce melt viscosity (col. 6 lines 51-54).

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**Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
10-11-05